

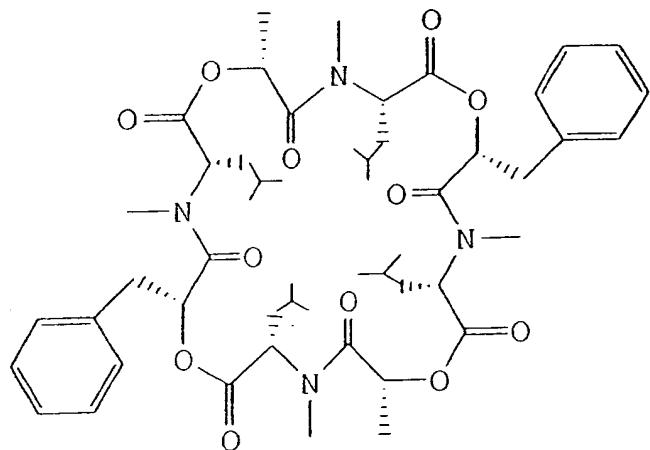
AMENDMENTS TO THE CLAIMS:

1. (Currently amended) A transformant of ~~an organism producing a secondary metabolite having a benzene ring skeleton that is not substituted with a functional group containing a nitrogen atom at the para-position~~ a microorganism producing a peptide or a depsipeptide, wherein the transformant ~~is produced by transforming the microorganism is~~ transformed by introducing ~~a gene involved in a biosynthetic pathway from chorismic acid to p-aminophenylpyruvic acid (biosynthesis gene)~~ (i) a polynucleotide encoding the amino acid sequence of SEQ ID NO: 2 or a modified sequence of SEQ ID NO: 2 having 4-amino-4-deoxychorismic acid synthase activity, (ii) a polynucleotide encoding the amino acid sequence of SEQ ID NO: 4 or a modified sequence of SEQ ID NO: 4 having 4-amino-4-deoxychorismic acid mutase activity, and (iii) a polynucleotide encoding the amino acid sequence of SEQ ID NO: 6 or a modified sequence of SEQ ID NO: 6 having 4-amino-4-deoxyphephenic acid dehydrogenase activity, so that the transformant produces ~~a secondary metabolite a peptide or a depsipeptide having a benzene ring skeleton substituted at the para-position with a functional group containing a nitrogen atom a nitro group or amino group, and wherein the modified sequences have one to several modifications selected from the group consisting of a substitution, a deletion, an insertion, and an addition.~~

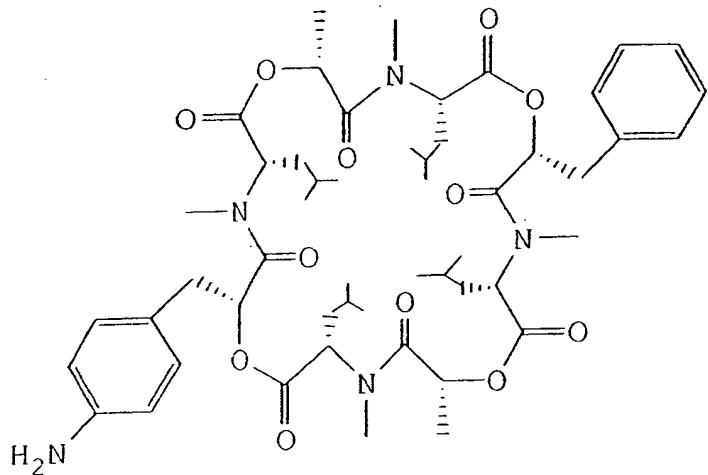
2-4. (Canceled)

5. (Currently amended) The transformant according to claim 4 1, wherein the peptide or the depsipeptide is synthesized from at least one ~~building block~~ amino acid selected from the group consisting of phenylalanine, tyrosine, and phenyllactic acid.

6. (Currently amended) The transformant according to claim 1, wherein the organism microorganism to be transformed is a microorganism that produces a compound of the following formula: produces a substance PF1022 ([cyclo (D-lactyl-L-N-methylleucyl-D-3-phenyllactyl-L-N-methylleucyl-D-lactyl-L-N-methylleucyl-D-3-phenyllactyl-L-N-methylleucyl])], represented by the following formula:



7. (Currently amended) The transformant according to claim 6 1, wherein the secondary metabolite produced by the transformant is a compound of the following formula; transformant produces a substance PF1022 derivative represented by the following formula:



8-16. (Canceled)

17. (Currently amended) The transformant according to claim 8, 9 or 16 1, wherein the gene encoding 4-amino-4-deoxychorismic acid synthase, the gene encoding 4-amino-4-deoxychorismic acid mutase, and the gene encoding 4-amino-4-deoxyprephenic acid dehydrogenase comprise the microorganism is transformed by introducing polynucleotides comprising: (i) the DNA sequence of SEQ ID NO: 1, (ii) the DNA sequence of SEQ ID NO: 3, and (iii) the DNA sequence of SEQ ID NO: 5, respectively into the microorganism.

18. (Canceled)

19. (Currently amended) The transformant according to claim 18 1, wherein the microorganism to be transformed is Mycelia sterilia.

20. (Currently amended) The transformant according to claim 19, wherein Mycelia sterilia is a strain PF1022 deposited with the National Institute of Bioscience and Human-Technology under an accession number of FERM BP-2671.

21. (Currently amended) The transformant according to any one of claims 1 to 20 claim 1, wherein the transformant is strain 55-65 deposited with the National Institute of Bioscience and Human-Technology under an accession number of FERM BP-7255.

22. (Canceled)

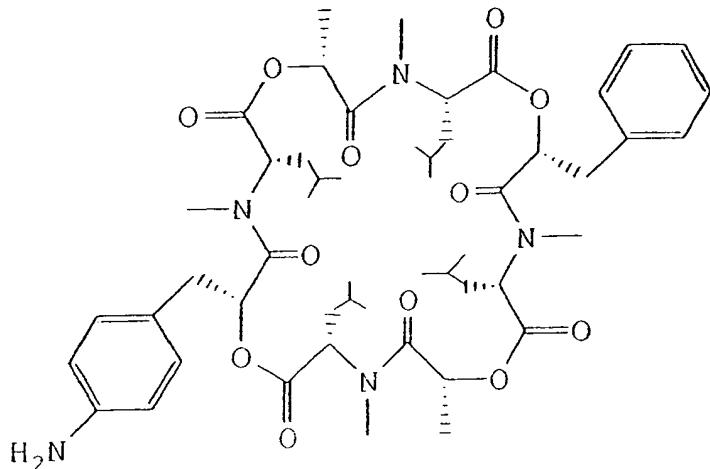
23. (Currently amended/Withdrawn) A method for producing a secondary metabolite a peptide or a depsipeptide having a benzene ring skeleton substituted at the para-position with a functional group containing a nitrogen atom a nitro group or amino group, which comprises the steps of

culturing the transformant of any one of claims 1 to 22 claim 1 under conditions suitable for production of the peptide or the depsipeptide, and

collecting the secondary metabolite having a benzene ring skeleton substituted at the para-position with a functional group containing a nitrogen atom the peptide or the depsipeptide.

24. (Canceled)

25. (Currently amended/Withdrawn) A method for producing a substance PF1022 derivative, which comprises the steps of
culturing the transformant of claim 6, 19, 20 or 21 under conditions suitable for production of the substance PF1022 derivative, and
collecting the substance PF1022 derivative of the following formula[.] :



26. (Currently amended) A An isolated polynucleotide encoding the amino acid sequence of SEQ ID NO: 2 or a modified sequence of SEQ ID NO: 2 having 4-amino-4-deoxychorismic acid synthase activity.

27. (Original) The polynucleotide according to claim 26, which comprises the DNA sequence of SEQ ID NO: 1.

28. (Currently amended/Withdrawn) A An isolated polynucleotide encoding the amino acid sequence of SEQ ID NO: 4 or a modified sequence of SEQ ID NO: 4 having 4-amino-4-deoxychorismic acid mutase activity.

29. (Withdrawn) The polynucleotide according to claim 28, which comprises the DNA sequence of SEQ ID NO: 3.

30. (Currently amended/Withdrawn) A An isolated polynucleotide encoding the amino acid sequence of SEQ ID NO: 6 or a modified sequence of SEQ ID NO: 6 having 4-amino-4-deoxyprephenic acid dehydrogenase activity.

31. (Withdrawn) The polynucleotide according to claim 30, which comprises the DNA sequence of SEQ ID NO: 5.

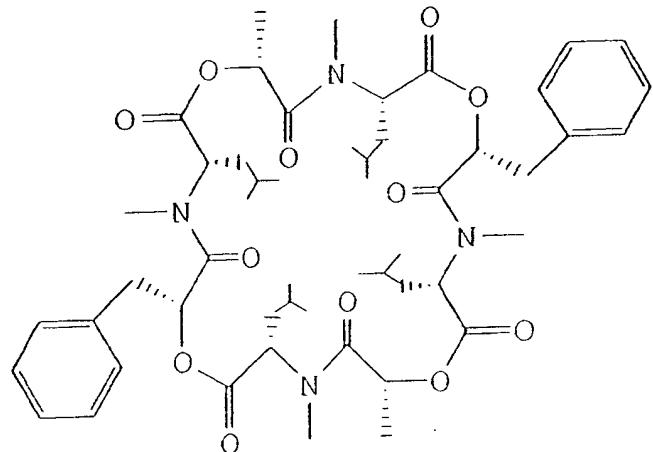
32. (New) The transformant according to claim 6, wherein substance PF1022 is synthesized by a substance PF1022-synthesizing enzyme from four molecules of L-leucine, two molecules of D-lactic acid and two molecules of D-phenyllactic acid.

33. (New) A transformant of Mycelia sterilia, wherein the transformant is produced by transforming the Mycelia sterilia by introducing (i) a polynucleotide encoding the amino acid sequence of SEQ ID NO: 2 or a modified sequence of SEQ ID NO: 2 having 4-amino-4-deoxychorismic acid synthase activity, (ii) a polynucleotide encoding the amino acid sequence of SEQ ID NO: 4 or a modified sequence of SEQ ID NO: 4 having 4-amino-4-deoxychorismic acid mutase activity, and (iii) a polynucleotide encoding the amino acid sequence of SEQ ID NO: 6 or a modified sequence of SEQ ID NO: 6 having 4-amino-4-deoxyprephenic acid dehydrogenase activity, and wherein the modified sequences

have one to several modifications selected from the group consisting of a substitution, a deletion, an insertion, and an addition.

34. (New) The transformant according to claim 33, wherein Mycelia sterilia is transformed by introducing polynucleotides comprising (i) the DNA sequence of SEQ ID NO: 1, (ii) the DNA sequence of SEQ ID NO: 3, and (iii) the DNA sequence of SEQ ID NO: 5 into the Mycelia sterilia.

35. (New) The transformant according to claim 33, wherein the Mycelia sterilia to be transformed produces a substance PF1022 ([cyclo (D-lactyl-L-N-methylleucyl-D-3-phenyllactyl-L-N-methylleucyl-D-lactyl-L-N-methylleucyl-D-3-phenyllactyl-L-N-methylleucyl)]), represented by the following formula:



36. (New) The transformant according to claim 35, wherein substance PF1022 is synthesized by a substance PF1022-synthesizing enzyme from four molecules of L-leucine, two molecules of D-lactic acid and two molecules of D-phenyllactic acid.

37. (New) The transformant according to claim 33, wherein the transformant produces a substance PF1022 derivative represented by the following formula:

